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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/940,708	08/28/2001	Sreekrishnan Venkiteswaran	JP920010119US1	5774

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STEVEN FISCHMAN
SCULLY, SCOTT, MURPHY AND PRESSER
400 GARDEN CITY PLAZA
GARDEN CITY, NY 11530

EXAMINER

CHOI, WOO H

ART UNIT PAPER NUMBER

2186

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/940,708	Applicant(s) VENKITESWARAN, SREEKRISHNAN	
	Examiner Woo H. Choi	Art Unit 2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-19,24 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5-19,24 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The amendment filed on July 02, 2004 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

Applicant's amendment includes substantial alteration of the original specification, including the abstract, the drawings and the claims, that includes 1) deletion of references to an essential claimed feature of the original claims, sector caching of dirty blocks, 2) replacement of "dirty block count" with a broader term "sector weightage", and 3) augmentation to the specification that introduces a 'file-system block' and its relationship with a flash sector and descriptions of certain operations involving these blocks among other changes. The amendment substantially alters the original specification and claims to shift the main focus of the invention away from the originally claimed subject matter to the point of redefining the invention, as stated in Applicant's remarks (see the last paragraph of Applicant's remark on page 16 of the amendment).

Applicant is required to cancel the new matter by reverting back to the original specification, except for the insertion of "increase" in the abstract, in the reply to this Office Action.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 5 – 20 and 24 – 25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With respect to the independent claims 1, 24 and 25, file-system blocks are not disclosed in the original specification including claims.

With respect to claims 5, 6, 11, 24 and 25, operations related to a “sector weightage” as claimed are not disclosed in the original specification.

With respect to claim 11, the original specification does disclose detection of sectors holding meta data and pinning, or persistent storage, of sector cache along with a disclosure that if a sectors with critical super-block (meta-data) are pinned in memory, one can guarantee that the sector(s) containing the super-block get erased and written to only once per “sync”. However, it does not disclose that “sectors holding critical meta data information are automatically detected and offered persistent storage.”

Applicant is invited to please specifically point out and discuss where and how the limitations discussed above are supported by the original specification. Specific

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support for every element of the limitations that were added in the amendment must be addressed to overcome the rejections.

All of the dependent claims are rejected for including deficiencies of their respective parent claims.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Ogawa (US Patent Application Publication 20010034809).

With respect to claim 1, Ogawa discloses a method of maintaining the memory content of a memory medium having a plurality of memory sectors that are erased before being rewritten, the method comprising the steps of:

maintaining a plurality data structures (figure 12) in memory, each data structure corresponding to a flash sector, and each data structure recording characteristics of data

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access (sector number records access location characteristic and change flag records whether access data has been changed) to the corresponding flash sector as well as containing a cached copy of file-system blocks (data portion of the data structure) present in the corresponding flash sector.

6. Claims 5, 24 and 25 are rejected 35 U.S.C. 102(b) as being anticipated by Bruce *et al.* (US Patent No. 6,000,006, hereinafter “bruce”)

Bruce discloses a method of maintaining the memory content of a memory medium having a plurality of memory sectors that are erased before being rewritten, the method comprising the steps of:

maintaining a plurality data structures (figures 5 and 6) in memory, each data structure corresponding to a flash sector, and each data structure recording characteristics of data access (figure 5, 50) to the corresponding flash sector as well as containing a cached copy of file-system blocks (figure 6, 22) present in the corresponding flash sector (24); and

determining a sector weightage for each cached sector that is dependent upon a combination of number of sector switches (46, write count, in a flash memory a sector cannot be written to unless the sector was erased, so successive write operations are performed on available erased sectors which are different the previously written sector) suffered by the corresponding flash sector and a number of dirty file-system blocks (52, col. 7, lines 15 – 18, dirty bit indicates one or zero number of dirty blocks) present in the corresponding flash sector, and wherein said sector weightage is dynamically recomputed

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(write count and dirty block indications are updated or recomputed dynamically as they occur).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Woo H. Choi whose telephone number is (703) 305-3845. The examiner can normally be reached on M-F, 8:00-4:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on (703) 305-3821. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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October 18, 2004


MATTHEW KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100